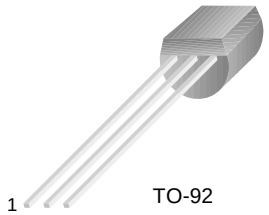
FAIRCHILD
SEMICONDUCTOR®

KSP8098/8099

Amplifier Transistor

- Collector-Emitter Voltage: V_{CEO}= KSP8098: 60V
  KSP8099: 80V
- Collector Power Dissipation: P_C (max)=625mW
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



TO-92

1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: KSP8098	60	V
	: KSP8099	80	V
V_{CEO}	Collector-Emitter Voltage		
	: KSP8098	60	V
	: KSP8099	80	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=100μA, I_E=0			
	: KSP8098		60		V
	: KSP8099		80		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	I_C=10mA, I_B=0			
	: KSP8098		60		V
	: KSP8099		80		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	6		V
I_{CBO}	Collector Cut-off Current				
	: KSP8098	V_{CB}=60V, I_E=0		100	nA
	: KSP8099	V_{CB}=80V, I_E=0		100	nA
I_{CEO}	Collector Cut-off Current	V_{CE}=60V, I_B=0		100	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}=6V, I_C=0		100	nA
h_{FE}	DC Current Gain	V_{CE}=5V, I_C=1mA	100	300	
		V_{CE}=5V, I_C=10mA	100		
		V_{CE}=5V, I_C=100mA	75		
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=100mA, I_B=5mA		0.4	V
		I_C=100mA, I_B=10mA		0.3	V
V_{BE} (on)	* Base-Emitter On Voltage				
	: KSP8098	V_{CE}=5V, I_C=1mA	0.5	0.7	V
	: KSP8099	V_{CE}=5V, I_C=10mA	0.6	0.8	V
f_T	Current Gain Bandwidth Product	V_{CE}=5V, I_C=10mA f=100MHz	150		MHz
C_{ob}	Output Capacitance	V_{CB}=5V, I_E=0 f=1MHz		6	pF

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Characteristics

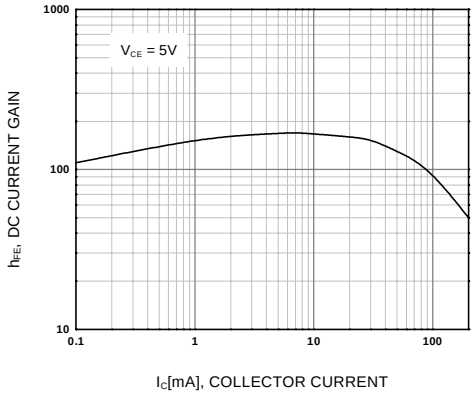


Figure 1. DC current Gain

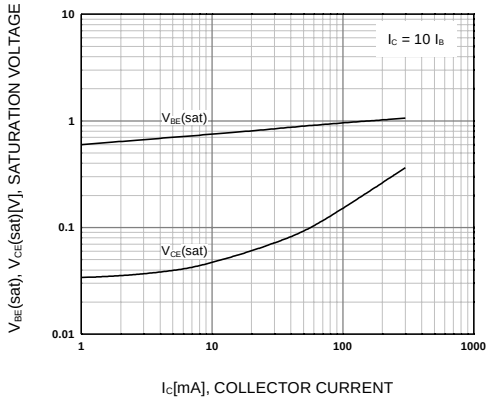


Figure 2. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

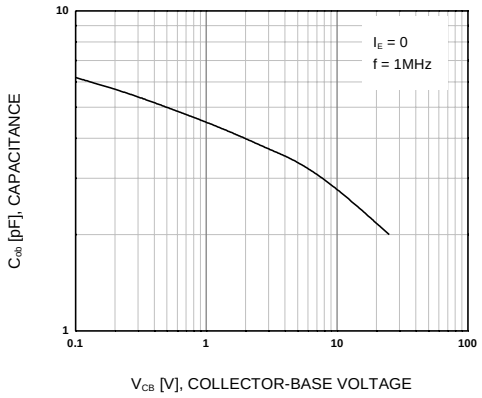


Figure 3. Output Capacitance

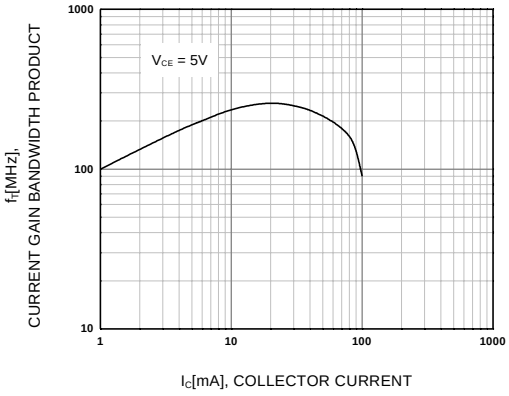


Figure 4. Current Gain Bandwidth Product

Package Demensions

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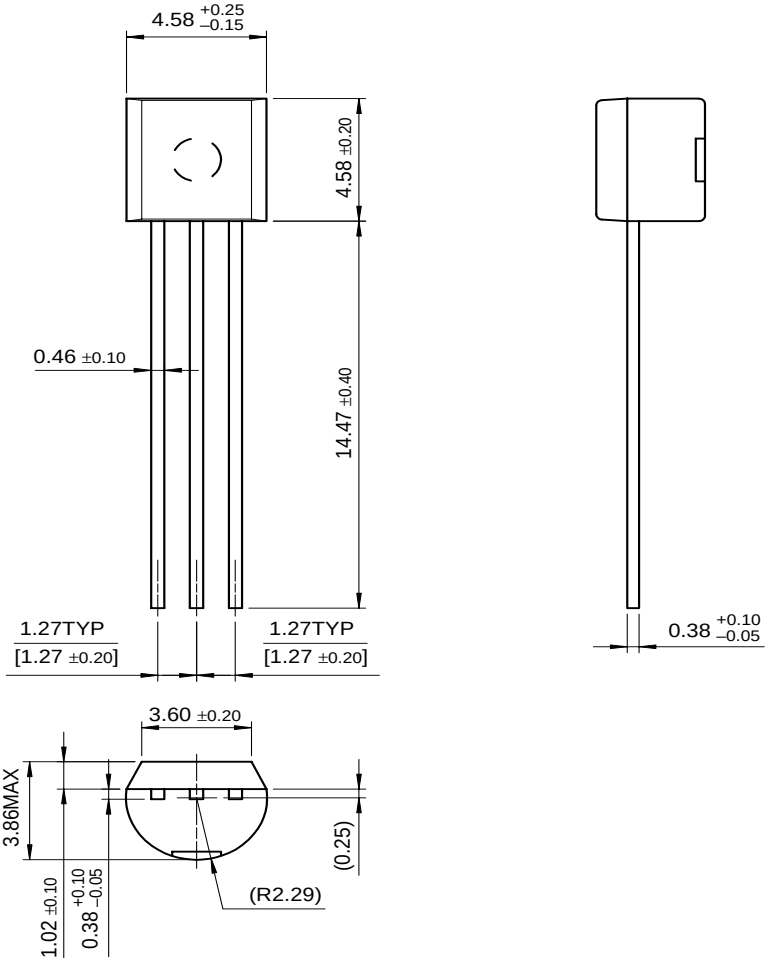

Dimensions in Millimeters

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OPTOLOGIC™
OPTOPLANAR™
PACMAN™
POP™
Power247™
PowerTrench®
QFET™
QS™
QT Optoelectronics™
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